Analytical Tools for ORPS Data
Lesson Plan

Workshop Title:

Analytical Tools for ORPS Data

Time Period:

1.5 Hours

Overview:

In this course students will be given an introduction to basic concepts of analyzing ORPS data and be introduced to various analytical tools that will assist in the evaluation of that data. Students will be instructed on specific process-focus and result-focus tools and their application to the analysis process. In addition, to further enhance the analysis process, students will receive information on using data from various other sources to supplement ORPS data.

References:

- Analytical Tools for ORPS Data Workbook

Terminal Objective:

Upon completion of this course each participant will, with the aid of the ***Analytical Tools for ORPS Data Workbook*** and course notes, be able to successfully use process-focus and result-focus tools to analyze ORPS and other data.

Enabling Objectives:

Each participant will be able to:

- Describe the analysis process and how ORPS data can be used in that process
- Describe some of the data manipulation tools that can assist in the analysis of ORPS data
- Explain the importance of normalizing data in the process, identify some sources of normalizing data, and recognize the limitations of the normalizing data sources

- Identify the differences between process-focus and result-focus tools and describe how they can be used in the analysis of ORPS data

Prerequisites:

Students must have taken the ***Overview of the ORPS GUI*** class/tutorial or have equivalent experience.

Software Required:

- Netscape Navigator (version 3.0 or higher) -- for display of overheads

Instructional and Other Materials:

- White boards
- Flip chart
- Course evaluation forms
- Class schedule
- Class roster

Machine Preparation:

- Start Netscape and load the first screen of the Analytical Tools for ORPS Data class overheads.

Presentation Methods:

The course presentation will be a combination of lecture, open discussion and demonstrations.

Evaluation Method:

Participants will demonstrate an understanding of how to use process-focus and result-focus tools for ORPS and other data analysis.

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November 3, 1997, Revision 1

Time	Instructional Activity	Discussion Point
15 min.	**Welcome Class:** During introductions, pass the class roster around the room and ask students to initial by their name. **Questions:** 1. Expectations of the course? 2. What is your previous experience using ORPS?	**I. INTRODUCTIONS, SCHEDULE AND LOGISTICS** **A. INSTRUCTORS AND PARTICIPANTS** **Instructors:** •Name and background information •Qualifications **Participants:** •Name (As time permits) (Refer to **Questions** indicated in previous column) **B. ADMINISTRATIVE ACTIVITIES** •Discuss length of workshop and order of presentation •Discuss location of restrooms, refreshments, and snack machines
	Slide #1 - Course Purpose & Objective	**C. COURSE PURPOSE AND OBJECTIVE** (Reference slide) The purpose of this course is to familiarize attendees with result-focus and process-focus tools, which can be used to analyze ORPS and other data. Upon completion of this course each participant will, with the aid of the ***Analytical Tools for ORPS Data Workbook*** and course notes, be able to describe the analysis process and how ORPS data can be used in that process, describe some of the data manipulation tools that can assist in analyzing ORPS data, identify and explain some of the sources for normalizing data (and recognize

Time	Instructional Activity	Discussion Point
		the limitations of those sources), and identify the differences between process-focus and result-focus tools and explain how they may be used in the analysis of ORPS data.
	Discussion: As you discuss the workbook, display it for the students.	**D. STUDENT MATERIALS** •Analysis Tools for ORPS Data Workbook The workbook is written in a conversational style so that end-users will find it easy to use and understand. The writing style, organization, and design of this workbook enables you (the end user) to utilize it for assorted functions: as a student workbook for this formal training, and as a self-paced tutorial and reference guide when you return to your workplace. Please note that topics are covered in more depth in the handouts than we will have time to cover in the course.
	Slide #2 - Prerequisites	**E. PREREQUISITES** (Reference Slide) Students must have taken the ***Overview of the ORPS GUI*** class/tutorial or have equivalent experience.

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Time	Instructional Activity	Discussion Point
20 min.	**Lecture**:	**II. THE BASICS OF ANALYSIS** •Explain the requirement for data analysis (mandated by DOE Orders) •Discuss the stages of data analysis - used in various stages in the life cycle of a system or process •Outline the steps for conducting an analysis: - identify the issue - identify the data needed - gather and analyze data - iterate analysis to identify root cause and formulate any changes - analyze effects of recommended changes - present final conclusions and recommendations **III. DATA SOURCES** •Discuss how to identify data sources -- refer students to ***Practical Applications of TIS Series, Use of TIS to Target Needs for Improvement of Training Programs*** (http://...) •Outline the types of data: - actuarial data - oversight data - resource data •Explain the limitations of the data
	Discussion: (If you prefer, questions can be taken during the lecture.)	**QUESTIONS**

Time	Instructional Activity	Discussion Point
20 min.	**Lecture:**	**IV. NORMALIZATION OF DATA** •Discuss why data should be normalized and refer students to the DOE Office of Operating Experience Analysis and Feedback (OEAF) Technical Bulletin 96-1, ***Normalization of Data*** (http://...) •Identify sources of normalizing data (point out that number of hours worked, number of vehicle miles driven, and property valuation information can be extracted from CAIRS) •Go through the example of normalization **V. OBTAINING AND FORMATTING DATA** •Discuss the basics of obtaining data and processing it into a form that can be used in your analysis - HP database and Visimage - The ORPS GUI (briefly discuss search enhancements and report enhancements) - Using a spreadsheet software package (discuss Excel's sums and functions, how to sort data, and the pivot table) - The ORPS Excel toolkit (the ORPS parser is available for download from the OEAF website). Discuss and demonstrate how to use this software.
	Discussion: (If you prefer, questions can be taken during the lecture.)	**QUESTIONS**

Time	Instructional Activity	Discussion Point
33 min	**Lecture:**	**VI. TYPES OF ANALYTICAL TOOLS** •Discuss analytical tools basics (process-focus vs. result-focus tools) •Explain what a process-focus tool is and give examples of these types of tools along with sample applications - Barrier/Control Analysis - Change Analysis - Check Sheet - Economic Matrix - Events and Causal Factors Analysis - Extreme Value Analysis •Explain what a result-focus tool is and give example of these types of tools along with sample applications - Bar Chart - Control Chart - Histogram - Line Chart - Pareto Analysis - Pie Chart - Scatter Diagram - Spider Diagram
	Discussion: (If you prefer, questions can be taken during the lecture.)	**QUESTIONS**

Time	Instructional Activity	Discussion Point
1 min.	**Discussion:** Talk about on-going support. Provide students with the e-mail address and toll-free number for ORPS support.	**VII. ONGOING SUPPORT** The ORPS helpline personnel are available to answer questions or help you in any way. You can reach them toll-free at (800) 473-4375 or you can send e-mail to support@tis.eh.doe.gov.
1 min.	**Discussion:** Hand out the course evaluation form. Thank the students for their attendance and their attention and ask them to complete the course evaluation.	**VIII. WRAP-UP** Thank you all for your time and attention. We would appreciate you completing the course evaluation as this helps us continually improve our courses. The instructor(s) will be available as you leave to answer any individual questions you may have. Don't forget your training materials. Thanks again!